

CLAIMS

1. A preformat method for a magnetic recording medium, for recording preformat information including servo information on a magnetic recording medium by a magnetic recording apparatus including a recording head, comprising steps of:

recording at least the servo information of the preformat information on the magnetic recording medium by magnetic transfer; and

recording preformat information excluding the servo information on the magnetic recording medium by the recording head.

2. A preformat method for a magnetic recording medium, for recording preformat information including servo information on a magnetic recording medium by a magnetic recording and reproducing apparatus including a recording head and a reproducing head, comprising steps of:

recording at least the servo information of the preformat information on the magnetic recording medium by magnetic transfer;

reproducing preformat information recorded by magnetic transfer;

fining a pattern of the reproduced preformat information; and

recording the fined preformat information on the magnetic recording medium by the recording head.

3. A preformat method for a magnetic recording medium, for recording preformat information including servo information on a magnetic recording medium by a magnetic recording and reproducing apparatus including a recording head and a reproducing head, comprising steps of:

recording at least the servo information of the preformat information on the magnetic recording medium by magnetic transfer;

recording a transfer clock pattern, which is synchronized with a pattern of the servo information, on the magnetic recording medium; and

recording preformat information excluding the servo information on the magnetic recording medium by the recording head, as patterns synchronized with the transfer clock pattern.

4. The preformat method for a magnetic recording medium according to Claim 3, further comprising steps of:

reproducing preformat information recorded by magnetic transfer;

fining a pattern of the reproduced preformat information; and

recording the fined preformat information on the magnetic

recording medium by the recording head.

5. A magnetic recording medium comprising:
a servo information pattern of preformat information patterns, which is recorded by magnetic transfer; and
a transfer clock pattern synchronized with the servo information pattern.

6. The magnetic recording medium according to Claim 5, which has a circular form in a plan view, wherein the transfer clock pattern is recorded on an inner or outer periphery portion of the magnetic recording medium.

7. The magnetic recording medium according to Claim 6, wherein information is recorded by a perpendicular magnetic recording method.

8. The magnetic recording medium according to Claim 5, wherein information is recorded by a perpendicular magnetic recording method.

9. A magnetic recording and reproducing apparatus comprising:
a reproducing head for reproducing information recorded on a magnetic recording medium having at least a servo information

pattern of preformat information patterns which is recorded thereon in advance by magnetic transfer; and

a recording head for recording preformat information patterns excluding the servo information pattern on the magnetic recording medium.

10. The magnetic recording and reproducing apparatus according to Claim 9, wherein the magnetic recording medium has a transfer clock pattern, which is synchronized with the servo information pattern, recorded thereon in advance by magnetic transfer, further comprising a phase synchronizing unit for synchronizing a phase of a clock of the recording head for recording information with a phase of a transfer clock obtained by reproducing the transfer clock pattern by the reproducing head.

11. The magnetic recording and reproducing apparatus according to Claim 10, further comprising a frequency multiplying unit for multiplying a frequency for recording information in a clock finer than the transfer clock.

12. The magnetic recording and reproducing apparatus according to Claim 9, wherein the magnetic recording medium has a transfer clock pattern, which is synchronized with the servo information pattern, recorded thereon in advance by magnetic transfer, further comprising a phase difference detecting unit for

detecting a phase difference between a transfer clock which is obtained by reproducing the transfer clock pattern by the reproducing head and a write-once clock which is recorded by the recording head.

13. The magnetic recording and reproducing apparatus according to Claim 12, further comprising a frequency multiplying unit for multiplying a frequency for recording information in a clock finer than the transfer clock.

14. The magnetic recording and reproducing apparatus according to Claim 9, further comprising a frequency multiplying unit for multiplying a frequency for recording information in a clock finer than the transfer clock.

15. The magnetic recording and reproducing apparatus according to Claim 9, wherein the magnetic recording medium has a transfer clock pattern, which is synchronized with the servo information pattern, recorded thereon in advance by magnetic transfer, further comprising phase synchronizing means for synchronizing a phase of a clock of the recording head for recording information with a phase of a transfer clock obtained by reproducing the transfer clock pattern by the reproducing head.

16. The magnetic recording and reproducing apparatus

according to Claim 15, further comprising means for multiplying a frequency for recording information in a clock finer than the transfer clock.

17. The magnetic recording and reproducing apparatus according to Claim 9, wherein the magnetic recording medium has a transfer clock pattern, which is synchronized with the servo information pattern, recorded thereon in advance by magnetic transfer, further comprising phase difference detecting means for detecting a phase difference between a transfer clock which is obtained by reproducing the transfer clock pattern by the reproducing head and a write-once clock which is recorded by the recording head.

18. The magnetic recording and reproducing apparatus according to Claim 17, further comprising means for multiplying a frequency for recording information in a clock finer than the transfer clock.

19. The magnetic recording and reproducing apparatus according to Claim 9, further comprising means for multiplying a frequency for recording information in a clock finer than the transfer clock.